

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016944**Date Inspected:** 03-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhao Chen Sun**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

**TOWER JETTY**

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006571

**Ultrasonic Testing (UT)**

This QA inspector performed UT of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The member is identified as Tower Component. The weld designation reviewed as follows:

**LIFT-3 TOWER CROSS BRACING GUSSET PLATE AT 89 M ELEVATION****WD1 – GUSA3 – 3 – 89M – S – 3A/B; 4A/B****WD1 – GUSA3 – 3 – 89M – N – 3A/B; 4A/B**

This QA Inspector observed the following work not in compliance:

**Description of Incident:**

During random bolting survey verification in North, West, South & East Shafts of Lift 2, this Caltrans Quality Assurance (QA) Inspector discovered the following issues:

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- Nearly most of the bolting in North, West, South and East shafts of lift-2 of grating support brackets, bracings and ladder support brackets, thread stickout measured to be beyond 6mm. This is not compliance with the Caltrans standard specifications.
- Approximately the measured lengths of the thread stickout ranges are from 8 to 10 mm.
- And for four (4) mislocated bolt holes on south and four (4) on north shafts at 80.75 M diaphragm's were closed by bolting. For these boltings thread stickout measured to be more than 15 mm.
- These Tower shafts are located on the ship.

Applicable reference:

CALTRANS STANDARD SPECIFICATIONS

SECTION 55; 55-3.14B Installation

“For all bolts, the threaded end projecting past the outer face of the nut (thread stickout), where first full formed thread is present, shall be at least flush with, but not more than 6 mm beyond, the outer face of the nut.”

For further information, please see the attached pictures below.

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 32 located on North tower Lift-3, 99 M cross bracing gusset plate to small doubler plate NSD1 – FASA3 – 1B/E. Welder is identified as 040582. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 4213– Tc – P4.

Weld joint # 21 located on South tower Lift-3, 99 M cross bracing gusset plate to small doubler plate SSD1 – FASA3 – 1B/E. Welder is identified as 053049. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 3212– B – U2a – 2.

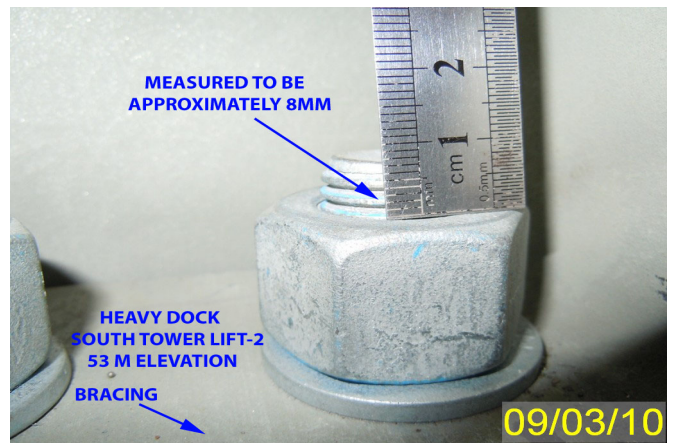
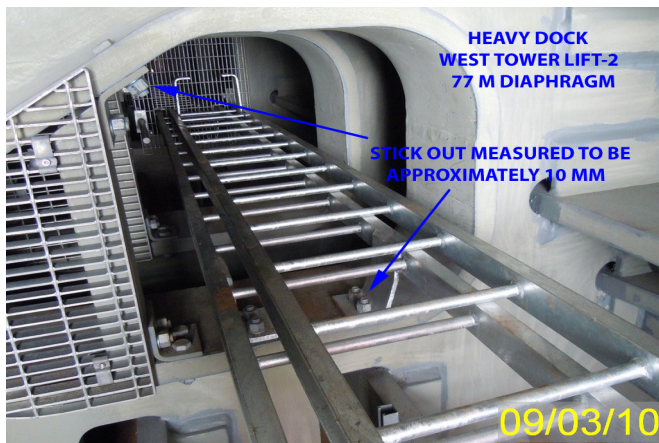
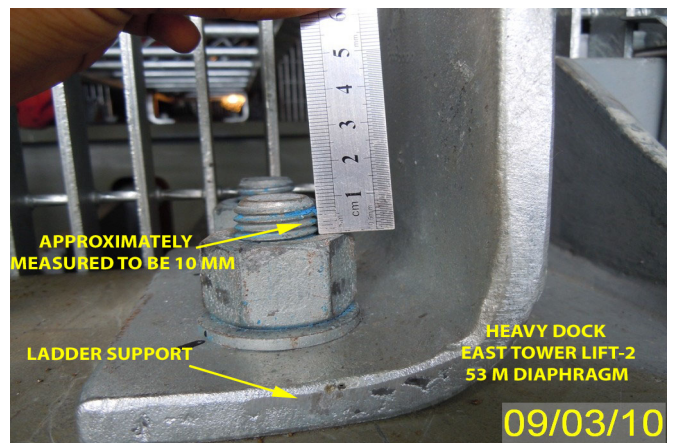
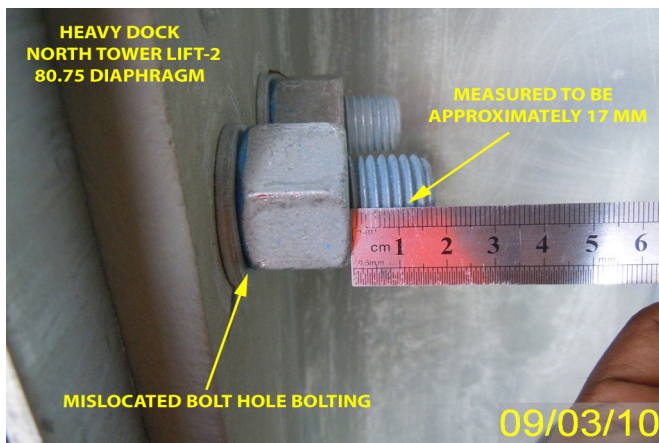
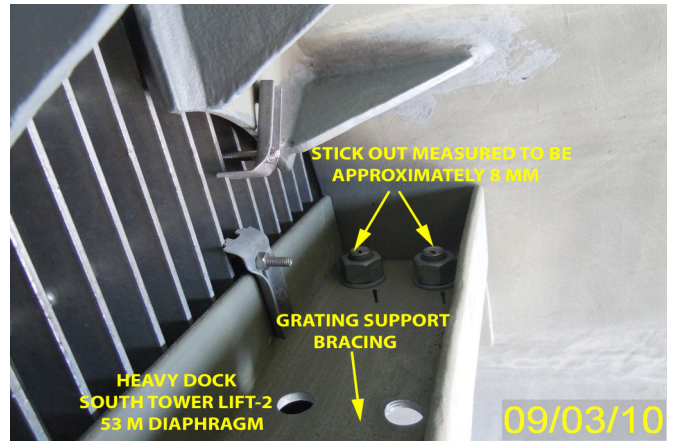
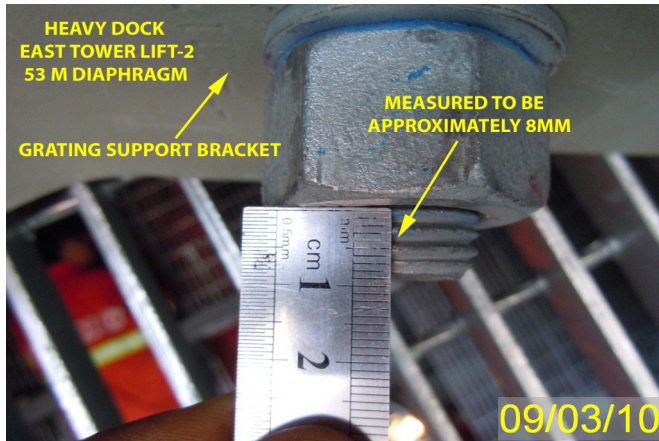
Weld joint # 33 located on North tower Lift-3, 109 M cross bracing gusset plate to small doubler plate NSD1 – FASA3 – 1B/E. Welder is identified as 052910. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 4213– Tc – U4c – 1.

Weld joint # 34 located on North tower Lift-3, 109 M cross bracing gusset plate to small doubler plate ND1 – FASA3 – 1B/E. Welder is identified as 052910. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 4313 – Tc – P4.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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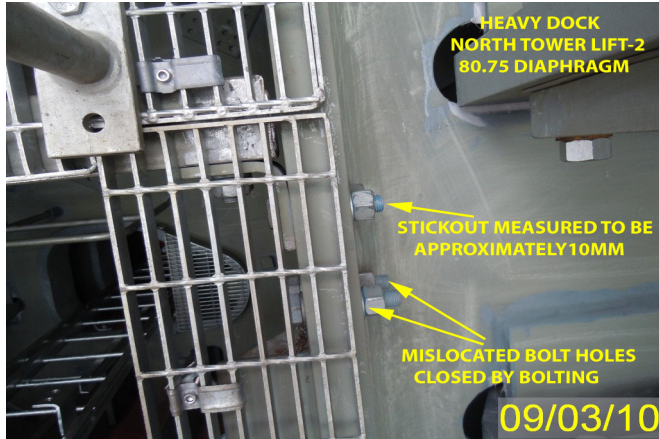


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## Summary of Conversations:

No Relevant Conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Michael Ng - 15921845703, who represents the Office of Structural Materials for your project.

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**Inspected By:** Kumar,Sandeep

Quality Assurance Inspector

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**Reviewed By:** Clifford,William

QA Reviewer